

REMARKS

Reconsideration of the present application is respectfully requested in view of the following remarks. Prior to entry of this response, claims 31-50 were pending in the application, of which claims 31 and 34 are independent. In the Office Action dated July 7, 2005, claims 38-45 were rejected under 35 U.S.C. § 112, second paragraph and 35 U.S.C. § 112, first paragraph. Also, claims 31-50 were rejected under 35 U.S.C. § 103(a). Following this response, claims 31-50 remain pending in this application. Applicants hereby address the Examiner's rejections in turn.

I. Amendments to the Specification

The specification has been amended to correct obvious errors in the specification. As the Examiner pointed out in the July 7, 2005 Office Action, "an amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of error in the specification, but also the appropriate correction." *In re Oda*, 443 F.2d 1200 (C.C.P.A. 1971). In an Advisory Action mailed January 10, 2006, the Examiner stated that no explanation has been given for why errors corrected by the amendments to the specification are obvious. Applicants respectfully assert that the detailed discussion included below shows that both the errors and the corrections thereto are obvious.

Prior to this amendment, the specification incorrectly stated that "the ratio of the height H2 to the total seal height H1 is less than about 2, preferably from about 2 to about 1.4. As the Examiner pointed out in the December 2, 2004 Office Action, a ratio requires two numbers. Thus, the error in the specification was obvious on its face. The correction of this error is also obvious. From the face of the specification, it is clear that

the correct ratio of total seal height H1 to seat height H2 is less than about 2:1, preferably from about 2:1 to about 1.4:1, because, as the Examiner noted, the total seal height H1 must be greater than the seat height H2. This is in agreement with the embodiment shown in FIG. 7, which shows the seal height to be greater than the seat height. Because the original specification omitted the “:1” from both the “2” ratio and the “1.4” ratio, it is obvious that the correct revision is to add “:1” after each ratio. Due to the identical omission of “:1” after both “2” and “1.4,” a reasonable person could not believe that the “1.4” ratio was intended to be “1:4,” as the Examiner hypothesized in the December 2, 2005 Office Action.

Applicants have also amended the description of the embodiment depicted in Figure 7 to clarify that the described height “5.8 mm from the seat 115 to the bottom of the seal.” Again, this clarification is obvious in consideration of the specification as a whole. By referring to the embodiment depicted in Figure 7, the description clearly intends that the stated dimensions (10 mm and 5.8 mm) refer to the total seal height H1 and the seat height H2, respectively. Reference to Figure 7 shows that the seat height H2 is the dimension from the seat of the seal to the base of the seal. Thus, it follows that the 5.8 mm dimension refers to the distance H2 between the seal base and the seal seat. This is also evidenced by the fact that the ratio between a total seal height H1 of 10 mm and a seat height H2 of 5.8 mm is 1.72:1, a ratio directly within the preferred seal height to seat height ratio of 2:1 to 1.4:1.

Further, as the Examiner noted in the Office Action, the reference to “seat 155” at page 33, line 9 in the specification should be “seat 115.” This correction is obvious based on the other references in the specification and Figure 7 to seat 115. Applicants

have therefore amended the specification to read "seat 115." Because the amendments to the specification correct obvious errors in a manner that would have been obvious to one of ordinary skill in the art, Applicants respectfully assert that the amendments to the specification add no new matter.

At page 30, line 12, Applicants propose replacing the description of angle α as "at least" 45° with "about" 45°. Applicants assert that this amendment is appropriate, as the same paragraph discusses that the angle α is preferably from about 40° to about 20°. Further, the same paragraph also discusses the consequences if angle α is higher than "about 45°." (p. 30, line 16, emphasis added).

Additional amendments to the specification correcting minor typographical error are proposed. Applicants assert that the corrections introduce no new matter.

II. Amendments to the Claims

Claim 31 has been amended to recite, among other things, "a muffle terminating at the upper end of said furnace body . . ." Support for this amendment is provided in the specification at least at Figure 1, which shows a muffle 33 terminating at the upper end of a furnace body F where it meets susceptor 2. Claim 31 has also been amended to recite "said muffle being adapted to surround the optical preform before the optical preform is moved into said furnace body." Support for this amendment is found in the specification at least at Figure 1, which shows that muffle 33 is adapted to surround a preform 32, and that muffle 33 terminates at the upper end of furnace body F. Thus, muffle 33 is adapted to surround preform 32 before it enters the furnace body. Because the amendments to claim 31 are supported by the specification, Applicants respectfully assert that no new matter is added by these amendments.

Claim 34 has been similarly amended to recite “a muffle terminating at the upper end of said furnace body” and “said muffle being adapted to surround the optical preform before the optical preform is moved into said furnace body.” Support for these amendments are found in the specification at least at Figure 1, as described above with regard to the amendments to Figure 1. Accordingly, Applicants respectfully assert that the amendments to claim 34 add no new matter.

Claim 38 has been amended to delete the words “connected to the drawing furnace and.” The deleted language was not presented in claim 38 as originally filed. Thus, deletion of this language should raise no new matter issue.

Claim 41 has been amended to clarify that “the ratio of the seal height to the seat height being less than about 2:1, preferably from about 2:1 to 1.4:1.” Support for the amendment to claim 41 is found in the specification at page 33, lines 2-9 as amended herein. Thus, Applicants respectfully assert that the amendment to claim 41 introduces no new matter.

III. Rejection of the Claims Under 35 U.S.C. § 112, Second Paragraph

In the Office Action, the Examiner rejected claims 38-45 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

The Examiner asserted that claim 38 is confusing in that it recites “the drawing furnace according to claim 34, further comprising a support collar connected to the drawing furnace . . .” Claim 38 has been amended to remove the words “connected to the drawing furnace.” Applicants believe this amendment overcomes the Examiner’s rejection of claim 38-45 under 35 U.S.C. § 112, second paragraph, and respectfully

request that the rejection of those claims be withdrawn. Because claim 38 as originally presented did not include the deleted language, this amendment does not raise new matter issues.

IV. Rejection of the Claims Under 35 U.S.C. § 112, First Paragraph

The Examiner rejected claims 38-45 under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement, stating that he could find no support for the “newly claimed feature that the support collar is both part of the draw furnace and is connected to the draw furnace.” As described above, claim 38 has been amended, and Applicants respectfully assert that amended claim 38 overcomes the Examiner’s rejection. Because claims 39-45 depend from claim 38, Applicants request that the rejection of those claims be withdrawn, as well.

Applicants note that the holding chuck 7 of Harding, cited by the Examiner in the December 2, 2004 Office Action as teaching or suggesting the support collar limitation of claim 38, cannot meet the limitation of amended claim 38, as the drawing furnace does not “comprise” the holding chuck. Instead, the holding chuck 7 is used to hold the preform 6 and advance it into the furnace. The holding chuck 7 is not part of the furnace, the entrance of which is clearly identified by reference number 8 (col. 2, lines 54-58).

The Examiner also rejected amended claim 41, stating that no support existed in the specification for the claim as amended. Applicants respectfully assert that the amendments to the specification at page 33, described above, provide support for claim 41, and therefore request that the rejection of claim 41 be withdrawn. Because claims

42-45 depend from claim 41, Applicants request that the rejection of those claims be withdrawn, as well.

V. Rejection of the Claims Under 35 U.S.C. § 103(a)

The Examiner rejected claims 31-33 and 50 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,608,473 to Paek *et al.* ("Paek") in view of U.S. Patent No. 4,988,374 to Harding *et al.* ("Harding"), U.S. Patent No. 4,678,490 to Miller *et al.* ("Miller") and Japanese Patent Publication No. 08091862 to Kuwabara Kazuya ("Kazuya"). To establish a *prima facie* case of obviousness, the cited combination must teach or suggest all limitations of the rejected claims. MPEP 2142. Because the cited combination does not teach or suggest every limitation of amended claim 31, the Examiner has not established a *prima facie* case of obviousness.

Applicants have amended claim 31 to recite, among other things, "a muffle terminating at the upper end of said furnace body, said muffle comprising a mechanical seal for avoiding inlet of ambient air into the furnace, said muffle being adapted to surround the optical preform before the optical preform is moved into said furnace body." In the July 7, 2005 Office Action, the Examiner "deems" upper 62 of Paek to meet the muffle limitation of claim 31. Applicants respectfully assert that Paek's upper 62 does not meet the limitations of amended claim 31.

The furnace 10 of Paek corresponds to the furnace body recited in Applicants' claim 31.¹ Paek comprises a susceptor 34 comprising a plurality of stacked susceptor

¹ Applicants note that element 26 of Paek is a silica beaker, whereas element 10 is described as the furnace. (Paek, col. 2, lines 20-24).

tubes 62 positioned along the entire vertical extension of furnace 10. Upper 62, like middle 62 and lower 62, is part of susceptor 34. (Paek, col. 4, lines 14-16). Reference to FIG. 3 clearly shows that upper 62 does not terminate at the upper end of the furnace body. To the contrary, upper 62 is located within the furnace body. Accordingly, Paek does not teach or suggest a muffle “terminating at the upper end of said furnace body” as recited in amended claim 31. Further, the Examiner has pointed to nothing in the other cited references disclosing this feature. Accordingly, a *prima facie* case of obviousness has not been established. Applicants therefore respectfully request that the rejection of claim 31 be withdrawn. Because claims 32-33 and 50 depend from claim 31, and therefore include each of its limitations, Applicants request that the rejection of those claims be withdrawn, as well.

The Examiner also rejected claim 31 over Paek in view of Harding, Miller, Kazuya and U.S. Patent No. 3,793,812 to Willis (“Willis”). Applicants are unclear whether the Examiner relies on Willis in addition to Miller, or instead of Miller. Regardless, the Examiner has not pointed to any structure of Willis that teaching or suggesting a muffle terminating at the upper end of a furnace body, as recited in amended claim 31. Accordingly, a *prima facie* case of obviousness has not been established, and this rejection of claim 31 should be withdrawn.

The Examiner also rejected claims 34-39 over Paek in view of Harding, Miller and Kazuya. Like claim 31, claim 34 has been amended to recite, among other things, “a muffle terminating at the upper end of said furnace body, said muffle comprising a mechanical seal for avoiding inlet of ambient air into the furnace, said muffle being adapted to surround the optical preform before the optical preform is moved into said

furnace body.” Because upper 62 of Paek does not meet this limitation of amended claim 34, and because the Examiner has not pointed to any structure in the other cited references meeting this limitation, a *prima facie* case of obviousness has not been established. Accordingly, Applicants respectfully request that the rejection of claims 34-39 be withdrawn.

The Examiner rejected claims 38-45 over Paek in view of Harding, Miller, Kazuya and Kaiser. However, because the Examiner has not established a *prima facie* case of obviousness with respect to claim 34, from which each of claims 38-45 depend, the rejection of those claims should be withdrawn. The Examiner also rejected claim 45 over Paek in view of Harding, Miller, Kazuya and Koaizawa. Because the Examiner pointed to no structure of Koaizawa meeting the muffle limitation of amended claim 34, no *prima facie* case of obviousness has been established. Accordingly, this rejection should be withdrawn, as well.

The Examiner rejected claims 46-49 over Paek in view of Harding, Miller, Kazuya, Willis and EP Patent No. 0867412 (“Uhm”). Because the Examiner has pointed to no structure of Willis or Uhm meeting the muffle limitation of amended claim 31, no *prima facie* case of obviousness has been established. Accordingly, Applicants respectfully request that the rejection of claims 46-49 be withdrawn.

The Examiner indicated that claims 41-45 would be allowable if Applicants overcome the 35 U.S.C. § 112 rejections. Based on the above-described amendments to the specification, Applicants submit that, with the amendment, claims 41-45 are in condition for allowance.

VI. Conclusion

In view of the foregoing remarks, Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims. The preceding arguments are based only on the arguments in the Office Action, and therefore do not address patentable aspects of the invention that were not addressed by the Examiner in the Office Action. The claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the preceding argument in favor of patentability is advanced without prejudice to other bases of patentability.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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